PLATYDORYCTES, A NEW DORYCTINAE GENUS FROM BRAZIL (HYMENOPTERA: BRACONIDAE)[1]

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ABSTRACT: One new Doryctinae genus, *Platydoryctes* and 4 new species (*P. soaresi, P. duckensis, P. amazonensis* and *P. rafaeli*) are described from Brazil. This new genus is characterized by its dorsoventrally flattened body.

Wasps of the subfamily Doryctinae belong to the cyclostome Braconidae, which have a circular or oval oral opening formed by a concave clypeus and labrum (Sharkey, 1993; Marsh, 1997). They are distinguished from other cyclostome Braconidae by the following characters: fore tibia with a row of spines along the anterior edge (90%); presence of a flange at the apico-lateral edges of propleurum that extends over the ventral-lateral corner of the pronotum (Achterberg, 1993); and dorsal valve of the ovipositor with a double node at apex (Quicke, 1992). They vary considerably in color and size, normally have a cubic head and long ovipositor and possess a type 1 venom apparatus (Edson & Vinson, 1979, Quicke et al, 1992 and Barbalho & Penteado-Dias, 1997). Most are solitary idiobiont ectoparasitoids of Coleoptera larvae; species of this group are found worldwide.

The number of described genera is 140, but this should increase to well over 200 (Marsh, 1993) with more studies in the Neotropical region. Recent studies with the Neotropical fauna of Doryctinae (as part of a major project by the first author) have revealed more undescribed genera.

This paper provides the description of an interesting new genus, with a flat body. Although we have no information on the biology of this genus, its flat body probably is associated with the type of host it attacks, or the microhabitat where the host is found.

This new genus is characterized by its dorsoventrally flattened body and the four new species are included in the same genus mainly because of this character. These new species are not included in *Sharkeyella* Marsh (another flat bodied genus) because of the coarsely and densely hairy ovipositor sheaths found in this genus (see coments).

The subfamily Doryctinae can be identified following keys provided by Sharkey, 1993 and Marsh, 1997 and their genera can be identified following Marsh, 1997. Type specimens are deposited in DCBU Collection (Departamento de Ecologia e Biologia Evolutiva da Universidade Federal de Brazil.

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São Carlos, São Paulo, Brazil), INPA Collection (Instituto Nacional de Pesquisas da Amazonia, Manaus, Amazonas, Brazil) and in CNC (Canadian National Collection, Ottawa, Canada).

Platydoryctes Barbalho and Penteado-Dias, NEW GENUS

(Figures 1-17)

Type species *Platydoryctes soaresi* n. spec., Barbalho & Penteado-Dias.

Body dorso-ventrally flattened; occipital carina present and not meeting hypostomal carina; face striate; head 1.2-1.3 times longer than its height; eye width 1.5-3.3 times temple width; first flagellomere length about equal to length of scape and pedicel combined; propleurum smooth; mesonotum not declivous anteriorly or slightly more elevated than pronotum; notauli few developed; scutellum granulate; sternaulus complete and smooth; propodeum rugose; wings hyaline or banded; vein m-cu in fore wing reaching before (Fig. 17) or basad (Fig. 15) with 2RS; first subdiscal cell open at apex, 2 cu-a absent; vein m-cu in hind wing absent; hind coxae with or without tubercle. Body length 3.0-4.1mm

Comments. This genus differs from *Sharkeyella* Marsh, another flat bodied genus, because *Sharkeyella* has T2 with longitudinal striate grooves converging to base of third tergum (in *Platydoryctes* the grooves are parallel or diverge before the third tergum) and has notauli scrobiculate anteriorly and obscured posteriorly by wide rugose area before scutelum (in *Platydoryctes* notauli is absent or few developed). Besides, *Sharkeyella* is characterized by its coarsely and densely hairy ovipositor sheaths. These characters are not present in *Platydoryctes*.

Key to the species of *Platydoryctes*, NEW GENUS, Barbalho & Penteado-Dias:

1. Frons and vertex smooth; *M+CU* in hind wing longer than *1M* (Fig. 16) ..... *P. duckensis*
Frons and vertex granulate; *M+CU* equal to or shorter than *1M* 2

2. (1) T1 3 times longer than apical width; propodeum with 3 central longitudinal carinae united to form a single carina apically and with a carina on each side (Fig. 13), *r-m* in fore wing absent (Fig. 17) ..... *P. amazonensis*

T1 less than 2 times longer than apical width and propodeum without central ..... longitudinal carinae (Figs 2, 5); *r-m* in fore wing present (Fig. 15) 3

3. (2) Head 1,2 times longer than width; temple smooth and shining ..... *P. soaresi*
Head 2 times longer than width; temple granulate ..... *P. rafaeli*

Platydoryctes soaresi Barbalho & Penteado-Dias, NEW SPECIES

(Figures 1-3, 15)

Holotype: Head. Flat in lateral view; occipital carina present and not meeting hypostomal carina; face striate; vertex granulate; frons granulate; temples smooth; head 1.2 times longer than height; head width 2.3 times eye width; oral opening short, about half of eye height; eye width 1.5 time temple width; malar space 1.2 times oral opening; 22 antennomeres; first flagellomere length about equal to length of scape and pedicel combined.
Mesosoma. Flat in lateral view; pronotum large in dorsal view, about 1/4 of mesoscutum length; propleuron smooth; mesonotum height half of its width; mesonotum only slightly more elevated than pronotum; mesoscutum granulate and with a granulate-rugose area in apical half (Fig. 1); notauli absent; scutellum granulate; sternaulus complete and smooth; propodeum rugose with lateral longitudinal carina slightly impressed (Fig. 2); legs slightly granulate; fore tibia with a row of 5 short spines; hind coxa without distinct basal tubercle.
Fore wings. (Fig. 15) Banded; *m-cu* arising basad *2RS*; *r-m* vein present; first subdiscal cell open at apex, *2cu-a* absent .
Hind wings. (Figure 15) *M+CU* about equal to *1M*; *m-cu* not tubular; *r-m* length 0.4 of *1M*.
Metasoma. (Fig. 3) T1 1.4 times longer than apical width, T1 striate, T2 granulate-striate; T3-4 granulate and remaining terga smooth and shinning; ovipositor length 1/3 of metasoma.
Color. Body brown; wings banded, stigma dark brown.
Body length. 3.1 mm.
Male. Unknown.
Distribution. Santa Catarina and São Paulo states, Brazil.
Holotype. 1 female, Fazenda Canchim, EMBRAPA,São Carlos, SP, Brasil, October 10, 1985, A . S. Soares col., (DCBU).
Paratype. 1 female, Seara (= Nova Teutonia), Santa Catarina, Brasil, November 26, 1940, (CNC).

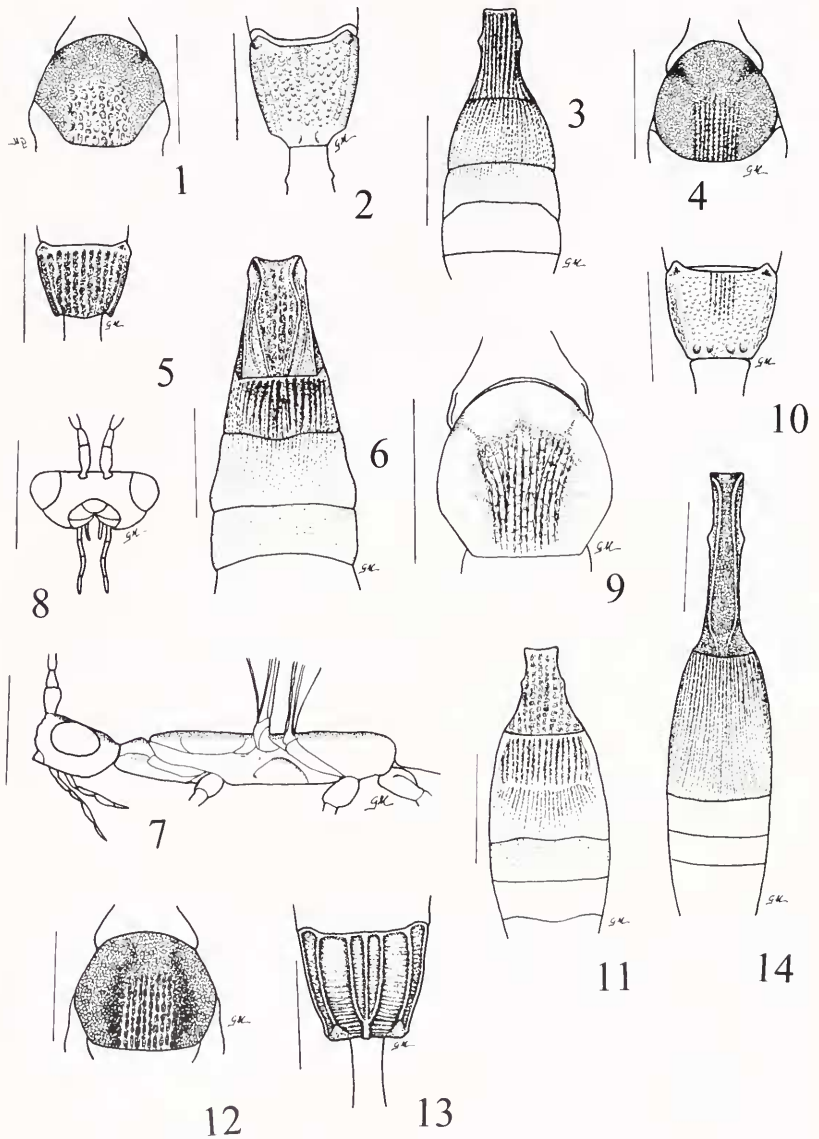
Etymology. This species is named for technician and collector of the holotype Airton Santo Soares from the Department of Ecology and Evolutionary Biology, Universidade Federal de São Carlos.

Platydoryctes rafaeli Barbalho & Penteado-Dias, NEW SPECIES

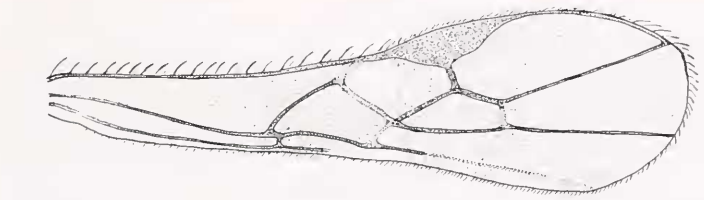
(Figures 4-6)

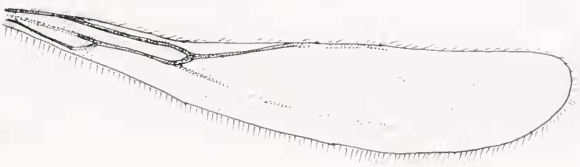
Agrees with the description of *P. soaresi* except as follows: temple granulate; head 1.2 time longer than height; head width 1.6 time eye width; eye width 2.0 times temple width; antennae were broken; mesopleuron granulate; mesoscutum granulate and with a striate area in apical half (Figure 4); hind coxae with basal tubercle; propodeum striate-rugose (Fig. 5); T1 1.5 times longer than apical width; T1 with dorsal carinae extending to the apex of the tergum (Fig. 6); T1-2 striate, remaining terga granulate (Fig. 6); ovipositor longer than metasoma; fore wings hyaline; body brown except propodeum and T1 black. Wings as in Fig. 16. Body length 4,0 mm.
Male. Unknown.
Distribution. Rondônia state, Brazil.
Holotype 1 female, Ariquemes, Rondônia, Brasil; November, 28, 1986, J. A . Rafael col., Malaise trap ,(INPA).

Etymology. This species is named for entomologist Dr. José Albertino Rafael, from Instituto Nacional de Pesquisas na Amazonia , Manaus, Amazonas.



Platydoryctes soaresi .1, Mesoscutum; 2, propodeum; 3, metasoma. *P. rafaeli*. 4, mesoscutum; 5, propodeum; 6, metasoma. *P. duckensis* . 7, lateral view of the head and mesosoma; 8, head; 9, mesoscutum; 10, propodeum; 11, metasoma. *P. amazonensis*. 12, mesoscutum; 13, propodeum; 14, metasoma. (scale bars = 0.5mm, except to fig. 9 = 0.6 mm).





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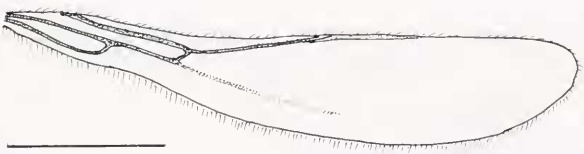

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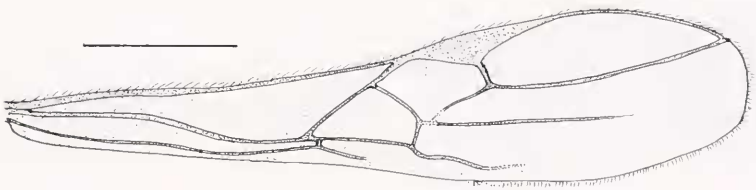

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Platydoryctes soaresi. 15, wings. *P. duckensis*. 16, hind wing. *P. amazonensis*. 17, fore wing (scale bars = 0.5 mm).

Platydoryctes duckensis Barbalho & Penteado-Dias, NEW SPECIES

(Figures 7-11, 16)

Agrees with the description of *P. soaresi* except as follows: flatter than the holotype and other species (Fig. 7); entire head smooth and shinning (Fig. 8); head 1.3 time longer than height; head width 2.1 times eye width; eye width 2 times temple width; 22-23 antennomeres; oral opening 1,8 times longer than malar space; mesoscutum not declivous anteriorly; mesoscutum 2.6 times longer than its height; mesoscutum sculpture as in Figure 9; fore coxae extremely flat; propodeum rugose as in Fig. 10; T1 rugose (Fig. 11), T2 and half of T3 striate, T4 rugose in basal half (Fig. 11); in hind wings *M+CU* longer than *1M* (Fig. 16). Body length 3.2 mm.

Male. Unknown.

Distribution. Amazonas and Rondônia states, Brazil

Holotype. 1 female, Reserva Ducke, Manaus, Amazonas, Brasil, October 13, 1988, J. A . Rafael col., elevated trap, (INPA).

Paratype. 1 female, Ariquemes, Rondônia, Brasil, November, 28, 1986, J. A . Rafael col, Malaise trap, (DCBU).

Etymology. The name *duckensis* refers to the locality Reserva Ducke, near Manaus, Amazonas.

Platydoryctes amazonensis Barbalho & Penteado-Dias, NEW SPECIES

(Figures 12-14, 17)

Agrees with the description of *P. soaresi* except as follows: flatter, more than 22 antenomeres; head 1.3 times longer than height; head width 1.8 time eyes width; eyes width 3.3 times longer than temple; malar space 1.6 longer than oral opening; mesoscutum as in Figure 12; propodeum granulate and with 3 strong central carinae and 2 lateral carinae (Fig. 13); in fore wings r-m absent; in hind wings m-cu absent (Fig. 17); T1 3 times longer than apical width; T1 with 2 longitudinal carinae extending to the apex of the tergum (Fig. 14); T1 granulate; T2-3 striate, remaining terga smooth (Fig. 14). Body length 4,1 mm.

Although vein *r-m* in fore wing is absent in this species, it is included in this genus because it has all the other characters of the genus.

Male. Unknown.

Distribution. Amazonas state, Brazil.

Holotype. 1 female, Manaus, Amazonas, Reserva Ducke, Brasil, December 20, 1977, Norman Penny col., light trap, (INPA).

Etymology. The name *P. amazonensis* refers to the Brazilian state of Amazonas.

ACKNOWLEDGMENTS

We thank Paul Marsh for the loan of material and help with the project of the first author; CNC (Canadian National Collection) for the loan of specimens; CPPSE (Centro de Pesquisa de Pecuária do Sudeste), EMBRAPA, São Carlos, SP for permits to collect the specimens; FAPESP (Fundação e Amparo à Pesquisa do Estado de São Paulo) and CNPq (Conselho Nacional de Desenvolvimento Científico e Tecnológico) for financial support; Gláucia Marconato for the drawings.

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BOOKS RECEIVED AND BRIEFLY NOTED

BIODIVERSITY OF THE DOMATIA OCCUPANTS (ANTS, WASPS, BEES, AND OTHERS) OF THE SRI LANKAN MYRMECOPHYTE *HUMBOLDTIA LAURIFOLIA* VAHL (FABACEAE). 1999. K.V. Krombein, B.B. Norden, M.M. Rickson, and F.R. Rickson. Smithsonian Contributions to Zoology, No. 603., Smithsonian Institution Press, Washington, DC. 34 pp. $8^1/_2$ x 11. Paper.

Humboldtia laurifolia is a common, and endemic, understory tree in the lowland rain forests of Sri Lanka. Although it is a myrmecophyle, it also *attracts* a diversity of invertebrate associates and possesses a morphology and phenology, including expanded, hollow, self-opening internodes, and a variety of extrafloral nectaries, that facilitate a strong relationship with ants. In this contribution, the authors discuss the variety of organisms interacting with and inhabiting this tree, including, among many others, fourteen taxa of ants, an internode nesting crabronine wasp, an undescribed social xylocopine bee, and several ant predators.

MILLIONS OF MONARCHS, BUNCHES OF BEETLES: HOW BUGS FIND STRENGTH IN NUMBERS. 2000. Gilbert Waldbauer. Harvard University Press. 264 pp. Hard. $24.95.

In this popularization of insect life, Waldbauer focuses on the group behavior of species that are not as highly organized, socially, or as well known for their social behavior as termites, ants, bees, and wasps. The emphasis in this interesting volume is on ladybird beetles, locusts, mayflies, butterflies, sawfly larvae, tent caterpillars, and others. Why these insects form aggregations and what they get out of their associations are questioned and carefully considered. In addition to the possibility of safety in numbers, many other factors may be involved such as control of temperature and humidity, better food and housing, better chances to mate, and cooperative defense against attacks.